

FINDING OF NO SIGNIFICANT IMPACT
TENNESSEE VALLEY AUTHORITY
STATE ROUTE (SR) 91 IMPROVEMENTS BETWEEN US 421 AND
COLD SPRINGS ROAD

JOHNSON COUNTY, TENNESSEE

Proposed Action and Need

In order to construct SR 91 near Mountain City, Tennessee, the Tennessee Department of Transportation (TDOT) has submitted an application for permits under Section 26a of the TVA Act. These permits are needed for stream relocations and culverts at ten locations along a 4.85-mile construction corridor between Mountain City and Laurel Bloomery, including some new alignment construction. The purposes of the project are to improve traffic flow in the Mountain City area, to route highway traffic off of residential streets, and to eliminate sharp curves and steep grades on the existing roadway.

The SR 91 project is a state-funded project. Compliance with NEPA and related laws is required of the federal permit agencies prior to their decisions on TDOT's request for permits. For most state-funded transportation projects, the agencies limit the scope of analysis to the area of the stream crossings. However, upon review of the application, TVA and the U.S. Army Corps of Engineers (USACE) determined that the undertaking may adversely affect properties that are eligible for listing in the National Register of Historic Places (NRHP). Based on the short length of the project, the number of stream crossings, and the fact that six of the ten proposed stream permit locations fell within the boundaries of eligible historic districts, TVA and USACE voluntarily expanded the scope of analysis to the entire length of the road project. TVA agreed to be lead agency for compliance with Section 106 of the National Historic Preservation Act and was joint lead agency in the preparation of the Environmental Assessment (EA) under NEPA.

Alternatives

Prior to submitting a permit application, TDOT deliberated on the design for this project over a 15-year period. A preliminary feasibility study completed in 1987 evaluated six alternatives. As a result of a public meeting in 1996 and discussions with local government officials, a new location alignment to the west of existing SR 91 was identified for state-funded construction. This alternative (designated Alternative D) was the alignment identified in the permit application to TVA and USACE. As a result of the public notice and the Section 106 compliance process, including a Consulting Party meeting on June 6, 2004, two additional alternatives were proposed and evaluated by the permitting agencies. One of these was determined to be reasonable and feasible, and was carried forward in the analysis. For the NEPA and Section 106 processes, TVA and USACE conducted an in-depth evaluation of three alternatives, designated No Action, Alternative D (the Applicant's Proposed Action), and Alternative I (Ridgeline-Route 91 Alternative). Other alternatives that would cost substantially more or have far greater impacts than Alternatives D and I were screened out after the preliminary evaluation.

Under No Action, USACE and TVA would not issue permits for stream modifications needed to construct SR 91 on existing and new alignment between Mountain City and Laurel Bloomery.

Under Alternative D, TDOT would widen existing US 421 from the junction of SR 67 in Mountain City north for 0.6 miles. At that point, new alignment construction would proceed for four miles north, crossing Johnson Hollow Road, Fox Ridge, and Wills Branch before rejoining SR 91 north of Cold Springs Road (Wills Road). Under this alternative, TVA would issue Section 26a permits for stream obstructions at ten locations.

Under Alternative I, TDOT would widen US 421 and begin new alignment construction as in Alternative D. However, at the southern boundary of the Johnson Hollow Historic District, the construction would turn northeast and rejoin existing SR 91 south of the Johnson Hollow Road junction. North of Johnson Hollow Road, this alternative would involve improvements to the horizontal and vertical alignment of existing SR 91. This alignment was not designed in detail, but it is likely that stream relocation permits would be needed at two of the same locations, along with permits at several locations along other tributaries of Laurel Branch.

Impacts Assessment

Under No Action, absent the ability to receive permits TDOT would have to abandon its road improvement plans or make more limited improvements to the existing alignment that would not involve work in the water.

Under the build alternatives D and I, two rural historic districts would be adversely affected. The Johnson Hollow and Wills Historic Districts are representative of late nineteenth and early twentieth century settlement patterns and agricultural practices in upper East Tennessee. The districts also contain period farms that retain their original outbuildings and spatial distribution. Alternative D would have substantial visual impacts on both historic districts and would affect farm operations. Alternative I would similarly affect both historic districts, and would have adverse visual and audible effects to another historic property, the Reverend William Marsh House. Because of the adverse effects to historic properties, the agencies initiated consultation under the National Historic Preservation Act (NHPA) and prepared a Memorandum of Agreement (MOA) to resolve adverse effects. The MOA provides that the roadway would be landscaped to complement the natural trees and growth of the area. The MOA was signed by four signatory and three concurring parties and has been filed with the Advisory Council on Historic Preservation.

Under Alternative D, the roadway would affect wetlands along Wills Branch. In addition, the original proposal would have affected a rare wetland type along Laurel Creek. The wetland closely resembles a globally-rare community type called the Appalachian Calcareous Artesian Seepage Fen. Six state-listed plants were found in the Laurel Creek wetland and nearby Wills Branch wetlands which are proposed to be filled through construction of SR 91 under Alternative D. Following meetings with TVA, USACE, and Tennessee Water Pollution Control Division, TDOT agreed to avoid the Laurel Creek wetland through construction of a retaining wall and rock buttress covering the spring seeps. Under Alternative I, detailed design was not conducted. No wetlands were found during visual inspection of the corridor and therefore wetland impacts would likely be avoided.

Stream impacts would also be a consequence of construction along either the Alternative D or I corridors, although these impacts would likely be much less along the Alternative I corridor. Based on TDOT construction design and permit applications, there would be 3669 feet of stream channel impacts from Alternative D construction. TDOT proposes to mitigate for stream impacts through payment into the Tennessee In-Lieu Fee Stream Mitigation Program. The certification required under Section 401 of the Clean Water Act was issued on August 11, 2003, and re-affirmed by letter of January 25, 2006.

Sedimentation, which would affect streams and aquatic life, was a major concern during the public review period. This concern stemmed from the siltation that resulted when TDOT stopped its preliminary work upon realizing the need to obtain federal permits for the stream crossings associated with the project. The siltation problem has been corrected by stabilizing the area. With appropriate protective measures enforceable through the permitting process, neither alternative would adversely affect the larger streams which contain the primary habitats for aquatic life.

In addition to impacts to aquatic and historic resources, other impacts of SR 91 construction under Alternatives D and I are possible, but would likely be minor and insignificant. These include displacements, wildlife habitat impacts, aesthetic impacts, and traffic noise. With the possible exception of the aquatic environment, these impacts are potentially greater under Alternative I than Alternative D. Even as to the impacts of Alternative D on the aquatic environment, these impacts would be adequately minimized as described under "Mitigation" below.

Mitigation

Mitigation would be required for stream, wetland, and historic properties impacts. In addition to Best Management Practices to prevent sedimentation and protect the aquatic environment, the following measures would be required for approval of Alternative D, and will be conditions of TVA's Section 26a approval:

- Credits must be debited for wetland impacts at a ratio of 2:1 from the Shady Valley Wetland Mitigation Bank (3.2 credits debited). Temporary wetland impacts will be mitigated by returning the areas to their original elevations, seeding with native perennial rye grass, and mulching.
- Stream mitigation will be accomplished by payment of \$182,200 into the Tennessee In-Lieu Fee Stream Mitigation Program.
- Development of the landscaping plan under the MOA (Appendix C) shall be started within 6 months of awarding a new contract for the SR 91 project and finalized (with TVA and USACE approval) before the highway can be opened to traffic. The landscaping plan will be developed by a qualified landscape architect. The draft landscaping plan will be coordinated with the SHPO and consulting parties (including Becky Johnson) by providing them 30 days for review and comment. The landscaping plan developed by TDOT will have the following minimum criteria:
 - The plan will apply to those sections of SR 91 right-of-way that traverse the Johnson Hollow and Wills Historic Districts.

- The footprint of the road within the historic districts will be no wider than two twelve-foot traffic lanes with climbing lanes (three lane cross section) and eight-foot shoulders.
- Where a guard rail is part of the roadway design in the historic districts, tree plantings will take place ten (10) feet from the guard rail. A guard rail will be installed on the same side of the new SR 91 as the Johnson house (west side of SR 91), and on both sides of Johnson Hollow Road at its junction with the new SR 91. Guard rails will be installed at the back of the eight foot shoulder (eight feet from the edge of the traffic lane as marked by the white line).
- Trees will be planted beginning ten feet from the guard rails and extending to the base of the slope.
- Trees closest to the guard rail (ten feet) will be a type that exceeds 35 feet in height at maturity. A mix of at least three different species will be planted closest to the guard rail. Trees will be arranged in informal groupings of three or more using like species in each grouping. Single trees may be used between groupings. Species will be alternated in each staggered grouping.
- In areas of the historic districts where a guard rail is not included in the design, 30 feet of clear zone will be allowed on each side of the traffic lanes. Trees will be planted between the edge of the clear zone and the edge of the right-of-way.
- Aesthetically treated guard rail shall be installed wherever guard rail is specified by the plans within the boundaries of the Johnson Hollow and Wills historic districts.
- Trees will be a mixture of evergreen and deciduous species.
- At least 60 percent of the trees will be of a minimum height of nine to ten feet when planted. The remainder may be smaller to enhance survivability and a natural look. Canopy trees (those that would mature at a height of 60 to 70 feet) such as oaks and maples will be planted a maximum of 20 feet apart, except those that are planted in groups. Understory trees such as dogwood, redbud, and sourwood (those that would reach a mature height of 30 to 35 feet) will be planted a maximum of 15 feet apart.
- All trees will be staked and guyed at the time of planting with a minimum of three wooden stakes. The stakes may be removed after two growing seasons but only after ascertaining that the root ball is capable of supporting the tree.
- A minimum survival rate of 90 percent at the end of five years will be insured for each species. Surveys will be conducted by TDOT on an annual basis to confirm progress with this survival rate, and plants that do not survive will be replaced. Results of the annual surveys will be documented and made available to TVA and USACE upon request.

Public and Intergovernmental Review

During the 1980s and 1990s, TDOT provided extensive opportunities for public involvement in the process for evaluating alternative route corridors. This earlier process resulted in TDOT's selection of the Alternative D corridor as the preferred corridor. TDOT's permit application to the federal agencies is for stream crossings along the Alternative D corridor. Joint Public Notice 03-10 was issued by USACE, TVA, and Tennessee Department of Environment and Conservation on March 6, 2003, to advertise the proposed work. Comments were received from the U.S. Fish and Wildlife Service and Tennessee Historical Commission. Additional comments were later received from Bob Sutherland and Joe W. McCaleb, expressing concerns about historical, wetland, and other issues. All comments were considered and used in preparing the EA. Because of potential adverse effects to historic properties, TVA and TDOT worked to draft a MOA. While the draft MOA was circulating, TVA learned that one contributing structure to the Johnson Hollow Historic District was inadvertently dismantled by a TDOT contractor. In addition, two cattle ponds and historical fence lines had also been affected. This resulted in a request for consulting party status by Ms. Becky Johnson, on behalf of the owner of one of the affected historic properties. In order to better understand the issue and alternatives available to the permitting agencies, TVA and the State Historic Preservation Officer (SHPO) jointly held a Section 106 consultation meeting on June 4, 2005, in Mountain City, providing additional opportunities for public comment.

On May 23, 2005, the EA was distributed to state and federal agencies and the public for comment. It was also posted on the TVA web site. The Tomahawk, a Mountain City newspaper, provided a front page article on the availability of the EA and its findings on June 8, 2005. As a result of these public involvement efforts, an additional 21 comment letters were received by mail or e-mail. All comments were considered, and the EA modified as appropriate. Detailed comment responses are attached to the EA. The EA comments also resulted in a change to the proposal. TDOT has modified the proposal to eliminate impacts to the wetland along Laurel Creek.

Conclusion and Findings

The project would not affect federally-listed endangered or threatened species. The MOA (Appendix C) signed, after consultation with the SHPO, TDOT, USACE, and the consulting parties, is evidence that TVA has taken into account impacts to historic properties, mitigating these impacts consistent with Section 106 of the NHPA. For compliance with Executive Order 11988, impacts to floodplains have been minimized by construction of perpendicular crossings, stream mitigation, and impact avoidance. It would not be possible to construct roadway improvements between Mountain City and Laurel Bloomery without some floodplain impacts. Accordingly, there is no practicable alternative to construction in the floodplains in the Mountain City area.

After consideration of the impact analyses and comparison of Alternatives D and I, it appears that there are benefits and disadvantages to each concept. Both alternatives have about the same construction cost and would result in similar impacts to the Johnson Hollow and Wills Historic Districts. Alternative D would result in greater impacts to the aquatic environment. However, Alternative I has other substantial adverse environmental impacts, including impacts to the NRHP-eligible William Marsh House. As to the impacts of Alternative D on the aquatic environment, this impact will be adequately minimized and mitigated. Local officials and the local community have expressed a strong preference for Alternative D. TDOT also prefers Alternative D since, from its project engineering perspective, this alternative would more effectively meet the

project purpose and need than Alternative I. In light of these considerations, TVA is adopting Alternative D as the preferred alternative for Section 26a permitting.

Based on the EA, we conclude that Section 26a approval for stream culverts, relocations, rock buttress, and other stream obstructions associated with the construction of SR 91 between Mountain City and Laurel Bloomery would not be a major federal action significantly affecting the quality of the human environment. Accordingly, an Environmental Impact Statement is not required. This FONSI is contingent upon successful implementation of the mitigation measures listed above under "Mitigation," compliance with the provisions of the Section 401 Water Quality Certification issued on August 11, 2003, and reaffirmed on January 25, 2006, and compliance with TVA's standard Section 26a approval conditions for water quality protection.



July 21, 2006

Jon M. Loney, Manager
NEPA Policy
Environmental Stewardship and Policy
Tennessee Valley Authority

Date Signed